

Notice of Allowability

Application No.

10/761,177

Applicant(s)

ITOH ET AL.

Examiner

Art Unit

Dirk Wright

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 20 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 01202004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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Claims Allowed

Claims 1-10 are allowable over the prior art of record. The claims are allowable because the prior art does not anticipate nor render obvious the invention of an automatic stop/start controller for a vehicle engine having an electric motor to drive the engine, and an automatic transmission, said automatic stop/start controller permitting said engine to stop or start without operation of an ignition key, comprising: a controller to start fuel supply to said engine after said engine is started by said electric motor and when it is determined that frictional engaging elements of said automatic transmission are engaged, in a case where said engine is started without the operation of the ignition key, or a process for controlling the startup of a internal combustion engine having a motor generator coupled thereto for assisting in driving said engine, and an automatic transmission drivingly coupled to the output of said engine and said motor, the transmission having a rotatable turbine wheel and having frictional drive engaging elements, and a controller for controlling said motor to permit starting and stopping of said engine without use of an ignition key, comprising the steps of: energizing the motor to effect starting of said engine; initiating restart of an automatically stopped engine without operation of an ignition key by first determining if the engine speed exceeds the transmission turbine speed by a predetermined reference amount; when the engine speed exceeds the turbine speed by said predetermined differential, initiating the supply of fuel to the engine; after initiation of fuel supplied to the engine, determining whether elapsed time from the beginning of fuel supply is greater than a predefined reference time; and if the elapsed time exceeds said reference time, then decreasing the assist torque provided by the motor.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art Discussed

The examiner has considered the Japanese reference '380 cited in applicant's Information Disclosure Statement filed January 20, 2004. The reference shows an engine restarting arrangement wherein an electric oil pump is provided for pressurizing the automatic transmission prior to restarting the engine, but does not show supplying fuel to the engine after the engine has been started by the electric motor.

The references cited by the examiner are deemed pertinent to applicant's disclosure. Toukura '800 shows an engine restarting controller including regulating the fuel supply to the engine, but does not show determining that the hydraulic components of the transmission are pressurized, or that the turbine of a torque converter is above a predetermined speed, prior to restarting the engine. Likewise, Kuoda '284 does not show determining that the automatic transmission is pressurized prior to restarting the engine.

Conclusion

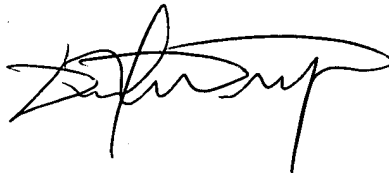
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dirk Wright whose telephone number is 571-272-7098. The examiner can normally be reached on Monday through Friday, 8AM-4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dirk Wright
Primary Examiner
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A handwritten signature in black ink, appearing to read 'Dirk Wright', with a stylized, flowing script.

DW
Saturday, April 23, 2005